2004 REPORT OF ACTIVITY BY THE
VIRGINIA AQUATIC RESOURCES TRUST FUND

SEPTEMBER 30, 2005

I. INTRODUCTION

This report outlines accruals, impacts, and mitigation projects associated with the **Virginia Aquatic Resources Trust Fund** (the Fund), an in-lieu-fee mitigation partnership administered by The Nature Conservancy of Virginia (TNC) and the Norfolk District Corps of Engineers.

The Fund is one of several compensatory mitigation options available to permittees for impacts to wetlands, streams, and other waters, available for use after avoidance and minimization of impacts as required by the US Army Corps of Engineers and Virginia Department of Environmental Quality.

The Fund seeks "no net loss" of aquatic resource acreage and/or functions using a watershed approach. The purpose of this report is to advise the Public of the status of the Fund and to address the items referenced in the Virginia Department of Environmental Quality's (DEQ) Virginia Water Protection (VWP) Regulations at 9 VAC (25-210-115E) specifically:

(1) an accounting that details "contributions received" (referred to as revenues)
(2) the "acreage and type of wetlands or streams preserved, created, or restored in each watershed"
(3) the "mitigation credits contributed for each watershed of project impact".

This report updates the 2003 report and also provides historic information from 1995 through 2004. The information is broken into three primary sections, non-tidal wetlands, streams, and tidal wetlands, along with additional sections for general information such as accounting and monitoring.

II. NON-TIDAL WETLANDS

A. NON-TIDAL WETLAND REVENUES AND PERMIT INFORMATION

Since the Fund's inception in August of 1995, **390** permitted projects with impacts to non-tidal wetlands utilized the Fund as mitigation. The **390** permitted projects resulted in **177.70** acres of non-tidal wetland impacts over the life of the Fund. For these impacts, the Fund accrued revenues totaling ~**$12.89** million. The impacts, revenues, permits using the Fund, and average impact per permit are shown in Table 1.

TABLE 1: WETLAND IMPACTS, REVENUES, AND PERMITS BY YEAR

YEARS	IMPACTS (in acres)	REVENUES	# of PERMITS	AVG IMPACT PER PERMIT
1995	2.90	$65,000.00	2	1.45
1996	20.52	$460,225.00	13	1.58
1997	26.00	$1,305,486.00	16	1.63
1998	16.27	$779,260.40	21	0.77
1999	13.62	$967,583.10	22	0.62
2000	7.42	$835,342.56	30	0.25
2001	12.10	$1,243,900.72	55	0.22
2002	20.12	$2,015,187.21	85	0.24
2003	28.48	$3,246,269.54	90	0.32
2004	30.27	$1,975,947.68	56	0.54
10	**177.70**	**$12,894,202.21**	**390**	**0.76**

A review of these figures illustrates several trends related to impacts and average impacts per permit. Changes and trends largely result from changes in the Corps and DEQ regulatory programs, which are reflected in the above figures. For example, significant changes occurred to the Corps Nationwide Permit program in 1997, resulting in a decline in average acres of impact per Nationwide Permit. Additionally, programmatic changes in 2002 resulted in more permit requiring mitigation (the number of permits using the Fund increased, while the average impact per permit remained relatively low and constant). The increased average impact per permit in 2004 appears to have resulted from four permit actions that authorized more impacts than was normally customary; but indicates more an anomaly than a trend at this point in time.

B. NON-TIDAL IMPACTS and FINANCIAL INFORMATION, BY BASIN

Table 2 provides financial information, impacts for different basins, and consolidates some of the mitigation categories. The mitigation categories are reported in greater detail as to type and stage of completion in Table 3 below and in the individual project summaries. The following explanations should be considered when reviewing the data found in Table 2:

BASIN: Major river basins are listed, generally as delineated per the Virginia DEQ 303d list and maps.
GENERAL refers to mitigation expenses that are spread over a number of projects, such as staff labor costs, equipment costs (such as monitoring wells), and other costs that are shared among multiple projects.
IMPACT ACRES: This column shows the acres of impacts to non-tidal wetlands and open water areas.
REVENUES: These currency figures are the amounts contributed per basin from 95-04.
ALLOCATED: This column shows the funds per basin that have been allocated to mitigation projects.
RESTORATION: This refers to all wetland restoration acres, including those already restored along with those acquired but yet to be restored, regardless of the stage of restoration or monitoring.
PRESERVATION/ENHANCEMENT: This refers to all wetland acres that were acquired or placed under easement, for the purpose of preservation or enhancement.
UPLAND BUFFERS: These are acquired and preserved forested buffers plus upland buffer acres that have been or are to be restored from crop or cleared land to convert them to forested buffers.
TOTAL ACRES: This refers to all mitigation acres, regardless of type or stage of completion.

TABLE 2. 1995-2004 NON-TIDAL WETLAND IMPACTS, and FINANCIAL

INFORMATION, BY BASIN

BASIN	IMPACTS	FINANCIAL INFORMATION	
BASINS	IMPACT ACRES	REVENUES	ALLOCATED
Lower James	64.60	4,125,528.11	1,780,092.00
Chowan	33.24	1,049,430.46	1,401,351.00
Mid James	19.99	1,711,130.92	216,450.00
Tennessee	13.76	569,390.60	0.00
Ches Bay	12.43	1,211,080.72	445,885.60
Rappahannock	9.46	1,391,362.00	5,000.00
York	8.51	1,110,617.76	849,200.00
Potomac	5.26	973,371.11	156,000.00
Shenandoah	3.76	337,662.53	0.00
Roanoke	3.45	268,597.80	0.00
Upper James	2.98	132,414.38	0.00
New	0.15	7,836.62	0.00
Atl Ocean	0.11	5,779.20	0.00
General			382,053.10
TOTALS	**177.70**	**$12,894,202.21**	**$5,236,031.70**

The Fund is currently pursuing several significant non-tidal mitigation projects in the Lower James, Tennessee, Chesapeake Bay, Rappahannock, and Upper James Basins. Collectively, these projects will likely require millions of dollars. Caution should be used in drawing conclusions from this table alone, because beneficial economies of scale may result in good mitigation projects at high ratios; but at a favorable cost. Using fewer funds to accomplish projects that mitigate for impacts is positive for the resource because saved funds are available for use on other projects. Some have expressed concerns about a high Trust Fund balance; concerns which may prove to be without good basis. Although accumulation of funds is not a goal of the Trust Fund, it can result from the efficient acquisition of sites by the program, trends in revenue distribution, or trends in expenditures and mitigation site availability. It can also allow the Fund to consider large scale projects of regional, statewide, or national significance; and over time will result in far greater mitigation and benefit to Virginia's waters than would a more inefficient approach.

C. NON-TIDAL WETLAND MITIGATION PROJECTS

The Fund prioritizes its search for compensation sites based upon impacts within basins. Basins with higher impacts are given highest priority, however low impact basins are not ignored. The Corps and TNC recognize that temporal losses in basins with lower impacts may take longer periods of time to accumulate funds sufficient to accomplish a good mitigation project. However, some costly mitigation projects that would produce high amounts of

mitigation in basins with low impacts are being sought and will be accomplished. Also, where possible, the Fund attempts to accomplish mitigation in advance of impacts, as with banks, and prior to degradation of watersheds, where possible.

Mitigation for impacts within watersheds and high mitigation return are the primary factors the Corps considers in its approval or denial of proposed Trust Fund projects. Where mitigation and TNC goals can be met, the Fund accomplishes projects in "Portfolio Areas," which TNC and its partners have identified as important to the conservation of biodiversity in Virginia. With this approach, mitigation sites are often located within this identified conservation framework that may provide greater ecological benefit than would an isolated project specific or other mitigation site with the sole purpose of mitigation credit generation or wetland restoration to Corps 1987 Delineation Manual standards. An example of the success of this approach is demonstrated in southeastern Virginia where the Fund has contributed to the protection of the Back Bay, Northwest and North Landing River conservation corridors, which have been identified by federal, state, local and environmental organizations as a conservation priority. Over 1,500 acres of land in this corridor have been protected by the Fund, including approximately 223 acres of wetland restoration. This approach adds landscape context and site proximity to the overall goals of mitigation for impacts. Other watersheds, such as the uniquely undisturbed Dragon Run, have similarly benefited.

A primary goal of the Fund is to address "no net loss" of wetland acres in each basin, by a minimum 1:1 restoration ratio for the impacts, along with other mitigation types and measures. The 1:1 restoration plus preservation goal is being met in the Chowan, Lower James, York, Potomac, and Chesapeake Bay basins, all of which have experienced significant impacts. Although some of the mitigation acres referenced have not been completed or released as final, the results for those sites where construction is finished have generally been favorable. In several of the basins that have sustained significant impacts, the Fund has acquired more mitigation acres than what is normally obtained through other mitigation options when viewed in light of the standard, accepted compensatory mitigation ratios. For the deficient basins, the Fund in 2004 hired a Land Protection Specialist with one of several primary duties being the identification and acquisition of mitigation sites (non-tidal, stream, and tidal). Approximately 35 potential sites are currently under review and consideration.

As with mitigation banks and project specific mitigation projects, the Fund obtains mitigation credit for activities other than wetland restoration, including wetland preservation, wetland enhancement, upland buffer restoration, and upland buffer preservation. These other types of mitigation are pursued usually in addition to at least a 1:1 restoration ratio required to accomplish "no net loss" of wetland acreage and functions and to provide for ecologically valuable enhancements.

Based upon impact trends in recent years, the Corps considers the Rappahannock and Tennessee basins high priorities for acquisition of new mitigation sites. Similarly, the Shenandoah, Roanoke, Middle James, and Upper James Basins require attention. The Corps and TNC also continue to regard the Lower James as a priority basin for acquisition of additional mitigation projects, due to its level of impacts.

Although the Fund is currently seeking and negotiating mitigation projects in the high impact basins noted above, doing so does not mean that the other basins are neglected or that projects in basins with lower amounts of impacts will be discouraged.

Regarding resource type, the majority of non-tidal impacts that resulted in payments to the Fund were palustrine forested, scrub shrub, or emergent wetlands; with palustrine forested wetland being the predominant type. Many of the impacts classified as emergent or scrub shrub wetlands were artificially kept in that state, with forest community being the natural condition if artificial manipulation were stopped. Therefore, using forested mitigation to compensate for many emergent and certain shrub impacts is appropriate. Approximately 90% of the attempted non-tidal wetland restoration is targeted for palustrine forested wetlands as described in the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979), with the remaining 10% divided among the other classes.

The Fund has 27 non-tidal wetland mitigation sites located within a number of watersheds (the Stephens tract is split into two different watersheds and is listed twice). Ten of these projects involve solely preservation (although 6 of these 10 also involve stream mitigation), and 17 involve some level of restoration or enhancement of wetlands. Construction and planting have been completed on 13 of the 17 restoration projects, and monitoring for hydrology and vegetation has been initiated or is ongoing. For the remaining four restoration projects, securing permits, planning, and/or construction are underway. Completing restoration on the projects previously acquired remains a major priority for the Fund in 2005. TNC's Wetland Restoration Specialist is primarily devoted to restoration plan development, project implementation, and monitoring. Having the Wetland Restoration Specialist on staff enabled TNC to make significant progress in 2004 toward completing restoration of projects already acquired, and provided major cost savings over contracting for these tasks. These savings are applied to additional mitigation projects to further the public interest and to benefit Virginia's aquatic resources.

The Fund tracks its impacts, revenues, mitigation, and allocations by HUC. However, the Fund maintains flexibility to allocate dollars to the best mitigation projects in order to obtain the most favorable mitigation value with these limited dollars. The Corps' Trust Fund Manager ensures that when mitigation projects are approved outside of HUCs (or adjacent HUCs) where payments into the Fund were generated, sufficient funds remain to mitigate for the impacts from all HUCs where funds were generated. The Fund does not allocate dollars to projects (out of impact HUCs) in amounts that will threaten the Fund's ability to mitigate for impacts in HUCs (or adjacent HUCs) where those impacts occurred. This flexibility allows for timing the acquisition of the best projects that provide the greatest benefit to the aquatic environment and public interest.

Table 3 provides information on the Fund's non-tidal wetland mitigation projects, including basin, HUC, acres, and type of mitigation. Acreages that are estimated (generally by GIS measurements on aerial photographs, and therefore are not based upon exact delineations,) are underlined. These estimates may also be based upon site conditions and projections of acreages that should be successfully restored. Efforts are underway to accomplish delineations at all of the sites. The following explanations should be considered when reviewing the data found in the columns:

Name: A list of project names.

Basin: Basins are abbreviated. (LJ, Lower James; CH, Chowan; CB, Chesapeake Bay; RP, Rappahannock; YK, York; PO, Potomac)
HUC: Hydrologic Unit Codes within which projects are located.
Restoration Acquired: This refers to hydric soil wetland restoration acres, or wetland creation acres, that have been acquired but have not yet undergone construction measures. These acres are generally in the planning stage and are scheduled for restoration or are under construction contract negotiations.
Construction Completed: These are wetland restoration acres where restoration construction measures have been completed. Monitoring for mitigation success is being or has been initiated, and these areas will be evaluated and further delineated over the prescribed monitoring period. FOR DAMERON MARSH this category may include some acres of non-tidal wetland CREATION in addition to some acres of non-tidal wetland restoration.
Restoration Final: These acres have completed their full monitoring periods and the wetland restoration has been determined to be successful. These acres have been released from further monitoring, except for long term stewardship monitoring for hydrology and habitat enhancement, which the Fund supports.
(RESTORATION) Upland Buffer: These are acres of upland buffer that required restoration from crop or cleared land to convert them to forested buffers.
NT Wetland Preserved: This column refers to wetland acres that have been acquired and will be preserved in perpetuity, generally with long term stewardship by TNC or others.
NT Wetland Enhanced: Acres of non-tidal wetlands that were enhanced by hydrologic adjustment or invasive species eradication measures.
Upland Buffer Preserved: These acres refer to upland areas that were acquired along with acquisition of aquatic resources (generally) and are set aside or preserved as upland buffers.

The Corps and TNC track impacts and projects by HUC and evaluate mitigation projects based upon the "HUC plus adjacent HUC within same river basin" method with one exception. If impacts occur in one HUC and a mitigation site is identified outside that HUC, but on a significant tributary to that HUC, the mitigation site can be used to mitigate for the impacts. One example is the Stephens tract in Chesapeake. Although it is 0.2 miles south of the 2080206 HUC line, it drains to the Dismal Swamp Canal, one of the largest tributaries to the Elizabeth River (HUC 2080206). Also, and where appropriate, the Fund strives to accomplish projects on different sub-watersheds within specific HUCs. Eleven different projects within HUC 3010205, including those on the Northwest River, Great Dismal Swamp, and Back Bay watersheds, demonstrate this concept. For information on hydrologic unit codes (HUCs), please refer to the following URL: (http://www.dcr.state.va.us/sw/hu.htm).

TABLE 3: 1995-2004 SPECIFIC WETLAND MITIGATION PROJECTS (in acres)

PROJECT NAME	LOCATION		RESTORATION				PRESERVE/ENHANCE			TOTAL
Name	Basin	HUC	Restoration Acquired	Construction Completed	Restoration Final	Upland Buffer	NT Wetland	Enhancement	Upland Buffer	Totals
Kellam Rigato	CH	3010205					160			160
TidewaterChristian	CH	3010205					51			51
Mayo Tract	CH	3010205					10		3	13
Benefits Tract	CH	3010205		8			704	40	18	770
Hall Tract	CH	3010205		25		6				31
Su Tract	CH	3010205		51.8		8.2	73	30		163
Bruff Tract	CH	3010205		1		9				10
Knight Tract	CH	3010205		17		1				18
Fentress Tract	CH	3010205		21		2				23
Stephens Tract	CH	3010205		70			112			182
Powers Tract	CH	3010205		25			100		47	172
Stephens Tract	LJ	2080208		70			112			182
Walters Tract	LJ	2080206		22		13	210	10	27	282
Lamb Tract	LJ	2080204	14.5			125.5				140
Scandia Lake	LJ	2080206	4				65		25.3	94.3
Dameron Marsh	CB	2080102		20.65		9.8	24.87		10	65.32
Trimmer Tract	CB	2080102					2.39		5.44	7.83
Piedmont Farms	CB	2080102					59		72	131
Beldon	CB	2080102					2.25		39.75	42
Byrd	CB	2080102					2.75		39.25	42
Calhoun 2	CB	2080102					37		23.5	60.5
Eastern Va Phrag	CB/LJ	2080108						205		205
Rappahan/Phrag	RP	2080104						40		40
Meadow (Gwathmey 1)	YK	2080105	70			36.5				106.5
Midway (Gwathmey 2)	YK	2080105					48		49.5	97.5
Po River	YK	2080105					9		11	20
Nash/Chotank	PO	2070011	40				50		50	140
Total Acres>			128.50	331.45	0.00	211.00	1,832.26	325.00	420.74	3,248.95

D. NON-TIDAL WETLAND MITIGATION PROJECT DESCRIPTIONS (Please refer to the table and explanations above for acreage amounts.)

1. Kellam Rigato: Forested wetland preservation project on the Northwest River, providing habitat for state rare canebrake rattlesnakes. Allocated funds originally approved in 1995. Perpetual protection by TNC.

2. Tidewater Christian: Forested wetland preservation project on Pocaty Creek, a tributary to the North Landing River, providing potential habitat for state rare canebrake rattlesnakes. Allocated funds originally approved in 1997. Perpetual protection by TNC.

3. Mayo Tract: Forested wetland and upland buffer preservation project on Pocaty Creek, a tributary to the North Landing River, providing potential habitat for state rare canebrake rattlesnakes. Partnership project providing corridor connection between Pocaty Creek and a 300 acre wetland restoration project to the north. Allocated funds originally approved in 1998. Perpetual protection by TNC.

4. Benefits Tract: Ditched forested wetland restoration is completed, and hydrology monitoring shows all restoration areas attempted are successful (mature forest cover was already present). Diverse forested wetland and upland buffer preservation providing habitat for canebrake rattlesnakes (observed) and black bears (prints observed). Least trillium, a plant that is a federal species of concern, has been identified in similar habitat on an adjacent site. Allocated funds originally approved in 1998. Perpetual protection by TNC.

5. Hall Tract: Prior converted (PC) cropland restoration with minor acres of upland buffer and preservation, adjacent to 12 foot ditch in Chesapeake. Hydrology restoration and forest regeneration are successful. Provides habitat for canebrake rattlesnakes (observed) and black bears. Least trillium, a plant that is a federal species of concern, has been identified in similar habitat on an adjacent site. Allocated funds originally approved in 1999. Perpetual protection by TNC.

6. Su Tract: PC cropland restoration with upland buffer and wetland preservation, adjacent to the Hall and Benefits tracts in Chesapeake. Hydrology restoration appears successful with the exception of an estimated 5.19 of 56 acres located on slopes or non-hydric soils. Provides habitat for canebrake rattlesnakes and black bears. Least trillium, a plant that is a federal species of concern, has been identified on this site. Allocated funds originally approved in 2001. Perpetual protection by TNC.

7. Bruff Tract: PC cropland restoration with upland buffer. Partnership project with the USFWS Great Dismal Swamp National Wildlife Refuge. Recent inspection indicates that potentially up to 4 or 5 acres of wetland restoration may be successful. Upland buffer restoration is successful. Provides buffer and habitat to many species located within the Refuge. Allocated funds originally approved in 1997. Perpetual protection planned via transfer to USFWS.

8. Knight Tract: PC cropland restoration on a tributary to Back Bay in Virginia Beach. Hydrology monitoring results indicate that remedial action may be required for part of the site. Additional information is being collected to aid in that decision. Vegetation is responding well. The Knight Tract lies due north of the Fentress Tract and due west of a tract recently acquired by Back Bay National Wildlife Refuge, providing a continuous connection to Nawney Creek. Allocated funds originally approved in 2000. Perpetual protection by TNC.

9. Fentress Tract: PC cropland restoration on a tributary to Back Bay in Virginia Beach. Hydrology monitoring results are favorable, and woody vegetation may require limited remedial actions for a small portion of the site. The Fentress Tract lies due south of the Knight Tract and due west of a tract recently acquired by Back Bay National Wildlife Refuge, providing a continuous connection to Nawney Creek. Allocated funds originally approved in 2003. Perpetual protection by TNC.

10. Stephens Tract: PC cropland restoration by blocking field ditches and forested wetland preservation on a tributary to the Dismal Swamp Canal. Initial hydrology monitoring is favorable except in minor areas adjacent to ditches that could not be plugged due to adjacent landowner issues. The Fund is exploring the possibility of plugging one of these ditches that runs between the restoration acres and preservation acres. Woody vegetation establishment is favorable with strong establishment of planted sycamore trees. The site connects via large culverts to the DGIF land along the Dismal Swamp Canal. Potential habitat for canebrake rattlesnakes, habitat for black bears, and habitat for many less rare palustrine forested wetland species. Allocated funds originally approved in 2002. Perpetual protection by TNC.

11. Walters Tract: PC cropland restoration by blocking field drainage and roughing field surfaces, along with preservation of a mosaic of forested wetland and upland preservation on the floodplain of the Chickahominy River. Initial hydrology monitoring is favorable. Woody vegetation establishment is favorable with a strong volunteer component. The site has a historic component, provides habitat for flood plain species, and protects habitat for anadromous fish. Allocated funds originally approved in 2000. Perpetual protection by TNC.

12. Lamb Tract: PC cropland restoration by blocking drain tiles and field ditches, along with long reaches of river flood plain buffers, and a significant priority 1/priority 2 stream restoration project. Site is located at the confluence of the North and South Forks of the Rivanna River. Wetlands restoration is ongoing although hydrology is restored. Establishment of woody vegetation may require replanting in limited areas. Invasive species are a problem a this site requiring ongoing management. Allocated funds originally approved in 2001. Perpetual protection by TNC.

13. Scandia Lake: Preservation of forested wetlands on White Oak Swamp with potential for wetland creation adjacent to an abandoned borrow pit. Site is near the confluence with the Chickahominy River. Potential historic component. Wetland creation work has not commenced. Allocated funds originally approved in 2004. Perpetual protection by TNC.

14. Dameron Marsh: Combination of PC cropland restoration and non-tidal wetland creation, upland buffer restoration, and preservation of tidal and non-tidal wetlands. Hydrology monitoring is favorable. Vegetative cover by native species and natural communities is favorable. Parts of the site provide habitat for northeast beach tiger beetles (federal endangered), and bald eagles. Sited on the Chesapeake Bay, restoration eliminated direct farm chemical inputs into the Bay. Allocated funds originally approved in 1997. Perpetual protection by DCR as State Natural Area Preserve.

15. Trimmer Tract: Preservation of tidal marsh and adjacent uplands. Restoration potential to be investigated in the future. Allocated funds originally approved in 2000. Perpetual protection by TNC.

16. Piedmont/Belden/Byrd/Calhoun 2 Tracts: Wetland and upland buffer preservation projects on Dragon Run. "The Dragon (Run) wilderness is a unique ecosystem which has been ranked second in ecological significance among 232 areas investigated in a Smithsonian Institution study which covered 12,600 square miles of the Chesapeake Bay region." (source: Friends of Dragon Run) Habitat for bald eagles and rare plants. Allocated funds originally approved in 1995. Perpetual protection by TNC.

17. Eastern Virginia Phragmites Eradication: Helicopter spraying to reclaim forested and emergent wetlands on XXX sites in state owned lands in Eastern Virginia. The strategy is to reduce phrag coverage to a point where it can be managed by ground crews. Initial monitoring reports indicate a favorable kill response. Allocated funds originally approved in 2003.

18. Rappahannock Phragmites Eradication: Similar to the project above. Monitoring reports after spraying indicated successful killing of phrag and some re-colonization by native plants. Allocated funds originally approved in 2001.

19. Meadow and Midway Tracts: PC cropland restoration on lands near the Mattaponi River. Project is in planning stage with restoration construction planned for summer of 2005. Allocated funds originally approved in 2004. Perpetual protection by easement held by TNC and VOF.

20. Nash/Chotank: PC cropland restoration in Potomac River basin. Initial hydrology appears favorable with some problem areas. Woody vegetation establishment appears favorable except for areas dominated with Juncus effusus. Allocated funds originally approved in 2001. Perpetual protection by easement held by TNC.

The total amount allocated to the above projects is ~$5.236 million out of the non-tidal revenue balance. The total acres of impacts required to fund the above mitigation projects can be roughly determined by dividing the total allocations by the average payment per acre of impacts. Accordingly, the total acres of impacts required to fund these projects is ~72.16 acres. When the mitigation noted above is considered in light of impacts to ~72.16 acres, the mitigation ratios are quite favorable. Regardless, the fund is pursuing additional non-tidal mitigation sites. The balance attached to the remaining acres of impacts (105.54) remains available to accomplish other mitigation projects.

III. STREAMS

A. STREAM REVENUES RECEIVED

Resulting from changes in the Regulatory Program in 2001, impacts to wetlands and streams were segregated and treated as separate mitigation categories (the Trust Fund began reporting them in 2003). Since 2001, **69** projects have used the Fund as mitigation for permitted stream impacts. These permitted projects resulted in **49,356** linear feet of stream impacts over the timeframe noted. For these stream impacts, the Fund accrued contributions totaling **$5,594,441**. The impacts, revenues, and number of permits using the Fund each year are shown

in Table 4.

TABLE 4: STREAM IMPACTS, REVENUES, AND PERMITS BY YEAR

YEAR	IMPACTS (lf)	REVENUES	# of PERMITS	AVG IMPACT Per PERMIT
2001	5973	$550,285.80	6	996
2002	1115	$115,565.40	3	372
2003	2576	$274,785.00	3	859
2004	39,692	$4,653,804.84	57	696
	49,356	**$5,594,441.04**	**69**	**731**

B. STREAM IMPACTS, REVENUES, AND ALLOCATED FUNDS BY WATERSHED

The Fund was not available as a mitigation option for stream impacts for the majority of 2003 and was used only sporadically in 2001 and 2002. In December of 2003, a new Memorandum of Understanding was signed by TNC and the Norfolk District, making the Fund again available for use as mitigation for stream impacts, which is reflected in the 2004 figures noted above.

Table 5 shows basins, impacts, revenues, and allocated funds. The following explanations should be considered when reviewing the data found in the columns:

BASIN: The basin where the impacts or mitigation are located.
IMPACTS: These are linear feet of impacts to streams, regardless of the level of quality or condition of the stream being impacted.
REVENUES: Funds paid into the Trust Fund as mitigation for the impacts noted above.
ALLOCATED: Funds allocated to mitigation projects WHICH HAVE BEEN ACQUIRED to compensate for stream impacts. Several additional allocations have been approved (generally in 2005, to be reflected in next year's report) and projects are under negotiation for substantial amounts of funds.

TABLE 5. 1995-2004 STREAM IMPACTS, REVENUES, ALLOCATED FUNDS,

AND MITIGATION

BASIN	IMPACTS	FINANCIAL INFORMATION	
BASINS	LINEAR FEET	REVENUES	ALLOCATED
Potomac *	25,845	3,024,399.00	85,800.00
Mid James	6,246	656,032.04	535,000.00
Shenandoah	5,527	629,130.00	0.00
Lower James	3,438	435,705.00	15,600.00
Tennessee	3,389	417,790.00	7,000.00
Rappahannock **	2,324	190,876.00	101,594.00
Roanoke	1,045	120,136.00	0.00
Ches Bay	843	64,702.20	160,000.00
Chowan	608	48,750.00	0.00
York	92	6,920.80	100,000.00
New	0	0.00	0.00
Upper James	0	0.00	0.00
Atl Ocean	0	0.00	0.00
General			245,016.58
TOTALS	**49,357**	**$5,594,441.04**	**$1,250,010.58**

* A large project allocation was approved with a project currently under negotiation in the Potomac Basin.
** A large project allocation was approved with a project currently under negotiation in the Rappahannock Basin.

C. STREAM MITIGATION PROJECTS

The Fund has ten stream mitigation project sites located within eight different watersheds. The projects generally involve restoration, stabilization, preservation, livestock exclusion, or enhancement, or some combination of these activities. Construction, planting, and preservation, have been completed on seven of the ten projects. The Rappahannock Fish passage project is half completed, the Gwathmey buffer restoration project is in the planning stage (preservation is complete), and the Forks of Rivanna buffer restoration has been planted (stream restoration project begins construction in July/August of 05.) Completing restoration on the projects previously acquired and acquisition of new stream mitigation sites are top priorities for the Fund. The Fund hired a Stream Restoration Specialist in 2004, who is primarily devoted to identifying potential sites, restoration plan development, project implementation, and monitoring. This position has identified, and is working toward closure, on numerous stream mitigation sites.

The Fund tracks its impacts, revenues, mitigation, and allocations by HUC. However, the Fund maintains flexibility to allocate dollars to the best mitigation projects in order to obtain

the most favorable mitigation projects with the dollars available. Despite this flexibility, the Corps' Fund Manager ensures that when mitigation projects are approved outside of the HUCs (or adjacent HUCs) where payments into the Fund were generated, sufficient funds remain to mitigate for the impacts from all HUCs where funds were generated. The Fund generally does not allocate dollars to projects (out of impact HUCs) in amounts that will threaten the ability to mitigate for impacts in HUCs (or adjacent HUCs) where those impacts occurred. This flexibility allows for acquisition of the best projects that provide the greatest benefit to the aquatic environment and public interest.

Table 6 below provides information on the Fund's stream mitigation projects, including the basin and HUC within which the projects are located and the linear feet and type of mitigation provided for each project. Linear footages that are estimated (not based upon exact delineations) are underlined. The following explanations should be considered when reviewing the data found in the Table:

Projects: A list of project names.
HUC: Hydrologic Unit Codes where projects are located.
Basin: Basins are abbreviated. (LJ, Lower James; TN, Tennessee; MJ, Middle James; RP, Rappahannock; PO, Potomac, and CB, Chesapeake Bay)
Restoration Acquired: This refers to stream restoration sites that have been acquired but have not undergone construction measures yet. These sites are generally in the planning stage and are scheduled for restoration or are under construction contract negotiations or application for permits.
Restoration: These are sites where stream restoration construction measures have been completed. Monitoring for mitigation success has or will be initiated, and these areas will be evaluated over the prescribed monitoring period.
Stabilization: These projects are not full scale stream restoration projects, but have undergone stream bank or channel stabilization measures.
Preservation: This column refers to streams that have been acquired and will be preserved in perpetuity, generally with long term stewardship by TNC or others.
Livestock Exclusion: This column refers to the linear feet of stream where existing livestock were fenced out of the stream to improve water quality and stream stability.
Anadromous Fish Access (Enhancement**)**: Streams that were enhanced by re-introduction of anadromous fish or invasive species eradication measures.
River Buffer Restoration: These are areas of upland buffer that required restoration from crop or cleared land to convert them to forested buffers, generally located along rivers.
River Buffer Preservation: These are areas of upland buffer generally located along rivers that have been acquired and preserved.

Note: Underlined linear footage figures have not been field verified.

TABLE 6: 1995-2004 SPECIFIC STREAM MITIGATION PROJECTS

PROJECTS	LOCATIONS		MITIGATION TYPES							
PROJECTS	HUC	Basin	Restoration Acquired	Restoration	Stabilization	Preservation	Livestock Exclusion	Enhancement	River Buffer Restoration	River Buffer Preservation
Grays Island	6010205	TN					6,000			6,000
Cheswick Park	2080206	LJ			104					
Lamb Tract *	2080204	MJ	2,986						6,000	
Nash Tract	2070011	PO		950			1,600		650	
Linden Farm	2080103	RP					7,742		2,000	
White Oak Fish Pass	2080104	RP						13,600		
Gwathmey	2080105	YK							2,400	2,500
Piedmont Farm	2080102	CB								6,900
Beldon	2080102	CB								810
Byrd	2080102	CB								1,500
TOTALS (lf)			**2,986**	**950**	**104**	**0**	**15,342**	**13,600**	**11,050**	**17,710**

* 2004 figures. Restoration work was completed in 2005.

D. STREAM MITIGATION PROJECT DESCRIPTIONS (Please refer to the table and explanations above for project dimensions.)

1. Grays Island: First stream project by the Trust Fund authorized in 1997. Riparian buffer and livestock exclusion along 6000 feet of the Clinch River, one side. Monitoring in 2005 indicates that livestock exclusion fencing remains in place and is in good condition. Site is directly adjacent to habitat for 5 federally endangered mussels. This project's mitigation monitoring period has concluded, however TNC will continue monitoring under its easement.

2. Cheswick Park: Second stream project by the Trust Fund authorized in 2001. Priority 4 stream restoration with buffers somewhat protected by county park land. A rock structure to step the stream down to lower elevation, with plunge pools, was constructed to arrest severe headcutting along the stream reach. Upstream reaches were stabilized and the headcut is arrested at this time. The evaluation period for this project concludes in 2006.

3. Lamb Tract: 155 acre tract with wetland restoration and stream mitigation components. Riparian buffer restoration (6000 lf) was completed along the north and south forks of the Rivanna River with 250-300 foot buffers. Priority 1 stream relocation of 1,740 lf of channel to the historic elevation in the floodplain with the proper dimension, pattern, and profile. Priority 3 restoration (1,246 lf) of severely incised stream with new bankfull bench installed. Restoration activities were completed in 2005. Annual stream geomorphologic monitoring will be initiated in Fall 2006. Proposed 200' or greater buffers to be restored on each channel. Invasive plant concerns present, management plan in development and eradication measures are underway and ongoing. Planting of the riparian buffers along the restored channels and re-planting of the riparian buffers along the North and South Forks will be initiated once the invasive species are managed and under control. Original allocation approved in 2001. In watershed of endangered mussels in the Rivanna River.

4. Nash Tract: Priority 1 relocation of 300 lf of channel and Priority 2 restoration of 650 lf of channel has been completed along with 650 feet of riparian buffer restoration and 1600 feet of livestock exclusion. Original allocation approved in 2001. Construction, planting, and fencing are completed. Annual stream geomorphologic monitoring will be initiated Fall 2005 and conducted until 2009. This site is used by bald eagles and is located adjacent to Caledon Natural Area Preserve.

5. Linden Farm: 2000 feet of riparian buffer re-generation (100-300 lf) along both banks and 10,745 feet of fencing to exclude livestock from 7,742 linear feet of stream channel and pond areas. Buffers have re-vegetated and fencing is completed and in serviceable condition. Original allocation approved in 2002. The evaluation period for this project concludes in 2007.

6. Rappahannock River Fish Passages: Originally intended for two projects totaling 19,474 lf of stream enhancement. One project was constructed (13,600 lf enhancement, estimated by measuring perennial reaches on USGS Quad Sheet) and is under evaluation for appropriate functioning. Landowner reclaimed access to second project site and another project location is being sought. Original allocation approved in 2002.

7. Gwathmey Tract: Wetland restoration with riparian buffer restoration and preservation, placed under permanent conservation easement, with yearly monitoring inspections. Located on the Mattaponi River. Original allocation approved in 2004.

8. Piedmont, Beldon, and Byrd Tracts: Wetland and upland buffer preservation projects on Dragon Run. Riparian and/or wetland buffers are generally 200 feet or greater in width. "The Dragon (Run) wilderness is a unique ecosystem which has been ranked second in ecological significance among 232 areas investigated in a Smithsonian Institution study which covered 12,600 square miles of the Chesapeake Bay region." (source: Friends of Dragon Run) Sites contain or are contiguous with habitat for bald eagles and rare plants. Sites placed under permanent conservation easements, with yearly monitoring inspections. Original allocations approved in 2003 and 2004.

Many of the stream impacts and mitigation projects occurred prior to defined standards in the Corps and DEQ regulatory programs. The total amount allocated to these projects is ~$1.25 million out of the total stream revenue balance. The total feet of impacts required to fund the above mitigation projects can be roughly determined by dividing the total allocations by the average payment per foot of impacts. Accordingly, the impacts required to fund the above projects is ~11,038 linear feet. When the mitigation noted above is considered in light of impacts to ~11,038 feet of impacted streams, the mitigation ratios are favorable. Regardless, the fund is pursuing additional stream mitigation sites. The balance attached to the remaining feet of impacts (38,319) remains available to accomplish other mitigation projects.

IV. TIDAL RESOURCES

A. TIDAL WETLAND and OPEN WATER CONTRIBUTIONS RECEIVED

In the 1995-2004 timeframe, **52** permitted projects used the Fund as mitigation for tidal open water and tidal wetland impacts. These 52 permits resulted in 1.353 acres of tidal open water and wetland impacts over the ten years noted. For these impacts, the Fund accrued contributions totaling **$197,159.17**. The impacts, contributions, and number of permits using the Fund each year are shown in Table 7. Of the 1.353 acres of impacts, 0.615 acres were tidal open water impacts, while 0.737 acres were to tidal emergent wetlands.

TABLE 7: TIDAL IMPACTS, REVENUES, AND PERMITS BY YEAR

YEAR	IMPACTS (in acres)	REVENUES	# of PERMITS	AVG IMPACT PER PERMIT
1996	0.050	13,000.00	3	0.017
1997	0.259	15,432.00	6	0.043
1998	0.301	47,965.00	4	0.075
1999	0.319	31,884.50	13	0.025
2000	0.092	12,113.01	4	0.023
2001	0.036	11,585.00	4	0.009
2002	0.159	19,327.00	8	0.020
2003	0.060	12,202.19	5	0.012
2004	0.078	33,650.47	5	0.016
	1.353	**$197,159.17**	**52**	**0.027**

B. TIDAL IMPACTS, REVENUES, AND ALLOCATED FUNDS BY WATERSHED

Table 8 shows basins, impacts, revenues, and allocated funds, for tidal mitigation projects. Underlined data are amounts estimated generally because they are spread over multiple basins. The following explanations should be considered when reviewing the data found in the table:

BASIN: The basin where the impacts or mitigation are located.
IMPACTS: These are acres of impacts to tidal resources, segregated into estuarine open water and estuarine emergent wetlands.
REVENUES: Funds paid into the Trust Fund as mitigation for the impacts.
ALLOCATED: Funds allocated to mitigation projects to compensate for tidal impacts.

TABLE 8. 1995-2004 TIDAL OPEN WATER AND EMERGENT IMPACTS, REVENUES, AND ALLOCATED FUNDS

BASIN	IMPACTS (acres)		REVENUES	FUNDS
Basins	Open Water	Emergent Wetland	Revenues	Allocated
Lower James	0.050	0.317	71,038.46	50,650.00
Chesapeake Bay	0.267	0.188	56,602.31	27,195.60
Potomac	0.050	0.060	38,934.90	6,000.00
Atlantic Ocean	0.248	0.159	27,446.00	0**
Chowan	0.000	0.014	2,137.50	5,000.00
York	0.000	0.000	1,000.00	0.00
Rappahannock	0.00	0.00	0.00	5,000.00
TOTALS	**0.615**	**0.738**	**$197,159.17**	**$88,845.60**

** Two allocations in the Atlantic Ocean watershed were approved in 2005.

C. TIDAL MITIGATION PROJECTS

The Fund has five tidal mitigation sites in its project portfolio located within a number of watersheds. Table 9 provides information on the Fund's tidal mitigation projects, including the basin, HUC, acreage, and type of mitigation provided. Acreages that are estimated (generally determined by GIS measurements on aerial photographs, have not been finally delineated, and therefore are not based upon exact delineations) are underlined. The following explanations should be considered when reviewing the data found in the columns:

Projects: A list of project names.
HUC: Hydrologic Unit Codes where projects are located.
Basin: Basins are abbreviated. (LJ, Lower James; CB Chesapeake Bay; RP, Rappahannock)
Restoration Acquired: This refers to tidal restoration sites that have been acquired but have not undergone construction measures yet. These acres are generally in the planning stage and are scheduled for restoration or are under construction contract negotiations.
Restoration: These are sites where tidal restoration or regeneration has occurred.
SAV Restoration: Submerged Aquatic Vegetation bed restoration.
Oyster Reef: Constructed oyster reef in acres.
Enhancement: Tidal Wetlands that were enhanced by invasive species eradication measures.
Upland Buffer Restored: These are acres of upland buffer that were restoration to their natural condition.
Upland Buffer Preserved: These are areas of upland buffer that are preserved in perpetuity, generally with long term stewardship by TNC or others.
Tidal Beach Shore Pres: Preserved areas of sandy tidal beach. On the Chesapeake Bay, tidal beaches often support populations of the federally endangered Northeast Beach Tiger Beetle.
Preservation: This column refers to Tidal Wetlands that will be preserved in perpetuity, generally with long term stewardship by TNC or others.

TABLE 9: 1995-2004 SPECIFIC TIDAL MITIGATION PROJECTS

PROJECTS	LOCATION		TIDAL MITIGATION TYPES									TOTALS
PROJECTS	HUC	Basin	Restoration Acquired	Restoration* *	SAV Restoration	Oyster Reef	Enhancement	Upl Buffer Restored	Upl Buffer Preserved	Tidal Beach Shore Pres	Preservation	Totals
Dameron Marsh	6010205	CB	0.00	1.48	0.00	0.00	0.00	0.00	7.02	3.71	5.00	17.21
Trimmer	2080206	CB	0.00	0.00	0.00	0.00	0.00	0.00	5.55	0.93	21.90	28.38
East VA Phrag	see below *	multi	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	150.00
Rapp Phrag	2070011	RP	0.00	0.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	40.00
Eliz Oyster Reef	2080208	LJ	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.30
TOTALS (lf)			**0.00**	**1.48**	**0.00**	**0.30**	**190.00**	**0.00**	**12.57**	**4.64**	**26.90**	**235.89**

* The Eastern Virginia Phragmites Control project is being accomplished on the Chesapeake Bay, and in the Potomac, Rappahannock, York, James, North Landing, and Northwest River Basins.
** Restoration to date involves more high marsh than low marsh. The Dameron Marsh restoration figure has not been field verified and was compiled based upon GIS measurements. The figure may likely change in future reports.

D. TIDAL WETLAND MITIGATION PROJECT DESCRIPTIONS (Please refer to the table and explanations above for project dimensions.)

1. Dameron Marsh: Primarily a non-tidal wetland project with areas of tidal marsh re-generation, upland buffer restoration, and preservation of tidal and non-tidal wetlands. Hydrologic restoration is favorable, and vegetative cover by of native species and natural communities is favorable, with some Phragmites problems that are being managed. Parts of the site provide habitat for northeast beach tiger beetles (federal endangered) and bald eagles. Site fronts on the Chesapeake Bay, and restoration eliminated direct farm chemical inputs into the Bay. Original allocation approved in 1997. Perpetual protection by DCR as State Natural Area Preserve.

2. Trimmer Tract: Preservation of tidal marsh and adjacent uplands. Restoration potential will be investigated in the future. Original allocation approved in 2000. Perpetual preservation by TNC.

3. Eastern Va Phragmites Eradication: Helicopter spraying to reclaim forested and emergent tidal wetlands on multiple sites on state owned lands in Eastern Virginia. The strategy is to reduce phrag coverage to a point where it can be managed by ground crews. Initial monitoring reports indicates favorable lethality. Original allocation approved in 2004.

4. Rappahannock River Phragmites Eradication: Treatment initiated in 2001 and has been continued to the present. Results are favorable to moderate, with need for ongoing treatment (not funded by VARTF) continuing. Project occurred in or adjacent to habitat for federally endangered sensitive joint vetch.

5. Elizabeth River Oyster Reef: Approved and constructed in 2002. Initial monitoring was very favorable. As with other reef projects, the oyster survivability may be in decline at

year three. Additional monitoring is continuing. Final results will influence future requests for funding.

The total amount allocated to these projects is ~$88,845.60 out of the tidal revenue balance. The total acres of impacts required to fund the above mitigation projects can be roughly determined by dividing the total allocations by the average payment per acre of impacts. Accordingly, the total amount required to fund the above projects is ~0.61 acres of tidal vegetated and tidal open water impacts. When the mitigation noted above is considered in light of impacts to ~0.61 acres of impacted tidal resources, the mitigation ratios are favorable. Regardless, the fund is pursuing additional tidal restoration and creation sites. The balance attached to the remaining acres of impacts (0.743) remains available to accomplish other mitigation projects.

V. TRUST FUND AUDIT AND ACCOUNTING CHANGES

After ten years of operation and in preparation for this report, the Corps and TNC in 2004 and 2005 conducted a thorough audit of the revenue payments made to the Fund over its lifetime. This was done by inspecting the paper records for each payment and comparing them to the accounting spreadsheets maintained by the Corps and TNC. As a result, revenue figures in the 2003 and 2004 reports exhibit differences for reasons outlined below:

1. The Corps and TNC standardized their accounting spreadsheets so that now both organizations use the same format and can seamlessly track and share information. The Corps and TNC also changed accounting methods so that both organizations now use the same date of payment receipt. Therefore, some payments (especially those received in the months of December or January) were shifted to preceding or following years and these changes are reflected in the data contained within this report when compared to the 2003 report.

2. Several duplicate records were eliminated from accounting spreadsheets, and other corrections were implemented where errors were discovered. Any payments with paper records that were not recorded in the accounting spreadsheets were added.

3. For this report, tidal data were separated and are tracked separately, also resulting in changes to non-tidal impact and revenue data.

4. A closer audit of impact types was made and different payments were moved between resource category types. For example, some impacts reported as wetland “open water” were moved to the streams spreadsheet, based upon timing of payment, and vice versa where appropriate.

Previously, tracking the relevant information for each payment (project number, name, locality, impacts, dollar amount, HUC, basin, dates, and etc.) proved difficult when applicants failed to provide this information. There was no timely or efficient procedure in place to deal with payments that lacked sufficient information, and compiling data for purposes such as this report was very time consuming. To remedy this problem, TNC and the Corps initiated a payment voucher system in early 2004, to ensure that accurate information is supplied with each

payment. This has significantly improved both organizations' accounting efficiency and accuracy and will greatly aid in streamlining the end of year accounting necessary to produce these reports in a more timely manner.

Additional audits of other accounting categories are being accomplished on an ongoing basis.

VI. OTHER REVENUES

In addition to revenues received as In-Lieu-Fee payments for wetland and stream impacts, the Trust Fund earns interest on its account balance. Through the end of 2004, the Fund earned a cumulative amount of **~$788,876.70** in interest payments. Although this form of revenue is not generated from direct wetland impacts and therefore is not associated with specific mitigation liability, it is held in the general Trust Fund account and is available to the Fund to accomplish mitigation projects. The proceeds from interest have been used for and in support of various mitigation projects. For purposes of contrast, many of the wetland preservation acres acquired by the Fund (~**1,832** acres to date) have been purchased with funds amounting to less than the Fund's total interest earnings.

VII. MONITORING AND STEWARDSHIP

Monitoring of mitigation projects is critical to the determination of overall mitigation success. Trust Fund wetland restoration projects are generally monitored for shallow groundwater hydrology using automatic reading wells that record depth to water table on a daily basis. This equipment provides the highest quality data and eliminates the subjectivity present in manually read wells, where the recommended interval between readings is weekly during the growing season and monthly during the non-growing season. Automatic reading wells also provide robust data sets that aid in analyzing and comparing daily precipitation data for normal circumstances determinations. Lastly, these data may provide a basis from which the study of wetland hydrology can be advanced. Well locations are approved by the Norfolk District Corps. Hydrology monitoring is generally conducted for five to ten years, with reduced numbers of well stations left in place for extended durations of time to provide long term monitoring information to better understand the hydrologic evolution of restoration sites.

The Trust Fund implements a number of different vegetative restoration strategies including bare-root seedling installation, weed mats, tree shelters, invasive species control, installation of aggressive canopy closers (e.g. sycamore or black willow), and no-plant alternatives. These different re-vegetation strategies require differing sampling methods and frequencies. The Trust Fund employs standard, accepted sampling methodologies for assessing vegetation at restoration sites. These include quantitative methods (e.g. plot/transect methods) and qualitative (e.g. professional observations) depending upon the objective. Use of 1987 manual data sheet methods is also an option for vegetation monitoring.

Soils are typically mapped as hydric versus non-hydric in the early stages of project development. If non-hydric areas are significantly hydrated as a result of restoration activities,

they will be monitored to determine if they become reduced. Generally the guidelines outlined in the "Field Indicators of Hydric Soils in the Mid-Atlantic United States", "US Army Corps of Engineers 1987 Wetland Delineation Manual" or other acceptable source for identification of hydric soils or hydric soil indicators is used.

The vast majority of Trust Fund mitigation sites are either under the long-term stewardship of the Conservancy or some other qualified natural resource entity (e.g. DCR, USFWS, VOF) either through ownership or through a conservation easement. Stewardship is an important aspect of any mitigation project, and The Nature Conservancy is uniquely qualified to address the challenges of successful long-term management. Such challenges include access, trespass, vandalism, invasive species control, pest and vector management, and local landowner appeasement and education. Frequent site visits by wetland professionals and the use of volunteers to aid in certain aspects of monitoring provide beneficial information regarding the progression and condition of Trust Fund sites.

Although the Fund does not fund academic research studies, its sites are made available for scientific research studies as long as the studies do not interfere with mitigation efforts. Two such studies have been conducted at Trust Fund sites in Chesapeake, including one review of soil temperature and growing season supervised by Dr. Gallbraith of Virginia Tech, and one small mammal study supervised by Dr. Rose of Old Dominion University.

VIII. PARTNERS

The following projects were accomplished with partners.

1. Dameron Marsh: Virginia Department of Conservation and Recreation (DCR), Division of Natural Heritage.

2. Po River: Central Virginia Battlefields Trust

3. Eastern Va Phragmites Eradication: Virginia DCR, Division of Natural Heritage and the Division of State Parks.

4. Rappahannock River Phragmites Eradication: US Fish and Wildlife Service, Rappahannock Phragmites Action Committee, Friends of the Rappahannock.

5. Gwathmey Tract: Virginia Outdoors Foundation.

6. Lamb (Forks of the Rivanna): The Dave Matthews Band, The North Carolina State University.

7. Bruff: US Fish and Wildlife Service, Great Dismal Swamp National Wildlife Refuge

8. Su Tract: Davis Environmental Consultants

9. Hall Tract: Davis Environmental Consultants

10. Powers: Virginia DCR, Division of Natural Heritage.

11. Mayo Tract: Natural Resources Conservation Service

12. Linden Farm: Friends of the Rappahannock, the Chesapeake Bay Foundation

13. Rappahannock Fish Passages: Virginia Dept of Game and Inland Fisheries, Virginia Commonwealth University.

14. Cheswick Park: County of Henrico

15. Grays Island: Local farmer, Lee County.

16. Elizabeth River Oyster Reef: Virginia Marine Resources Commission

IX. ADDITIONAL BENEFITS OF TRUST FUND PROJECTS

In addition to the many acres and linear feet of wetland and stream mitigation, Trust Fund mitigation projects often provide unique functions and values to Virginia's aquatic environment not provided by banks or project specific sites. First, the large size of many of the projects provides habitat for wildlife that depend upon large contiguous forest blocks not provided by smaller sites. Second, a benefit of the partnership with TNC is that many of these sites are included as part of a planned and researched conservation format with broad landscape and regional application. Third, many of these projects provide corridors to connect preserved habitat blocks to other habitat blocks. In addition, several projects have a historic resource component and many have rare or threatened species components.

X. CONCLUSION

The Fund provides significant staff time savings for the Corps and DEQ. The field and office reviews required for approval of project specific mitigation proposals, which would be required for all of the projects that have utilized the Fund, would require substantial amounts of staff time by both agencies. The availability of the Trust Fund as a mitigation option allows this time to be used for other tasks such as more timely permit responses for the regulated public or compliance inspections.

Although more work needs to be done and outstanding impacts must be addressed, the mitigation projects described above demonstrate that the Fund has made significant progress toward accomplishing its goal of providing watershed-based mitigation for permitted impacts, along with benefiting Virginia's natural heritage. By combining the mitigation contributions from multiple permit applicants to accomplish projects at favorable economies of scale, working in the non-profit environment, and with partners, the Fund is in an advantageous position to

bring significant mitigation projects to completion.

For additional information, please contact Mr. Greg Culpepper of the Norfolk District Corps of Engineers at 757-201-7655 or by email at [Gregory.D.Culpepper@usace.army.mil].